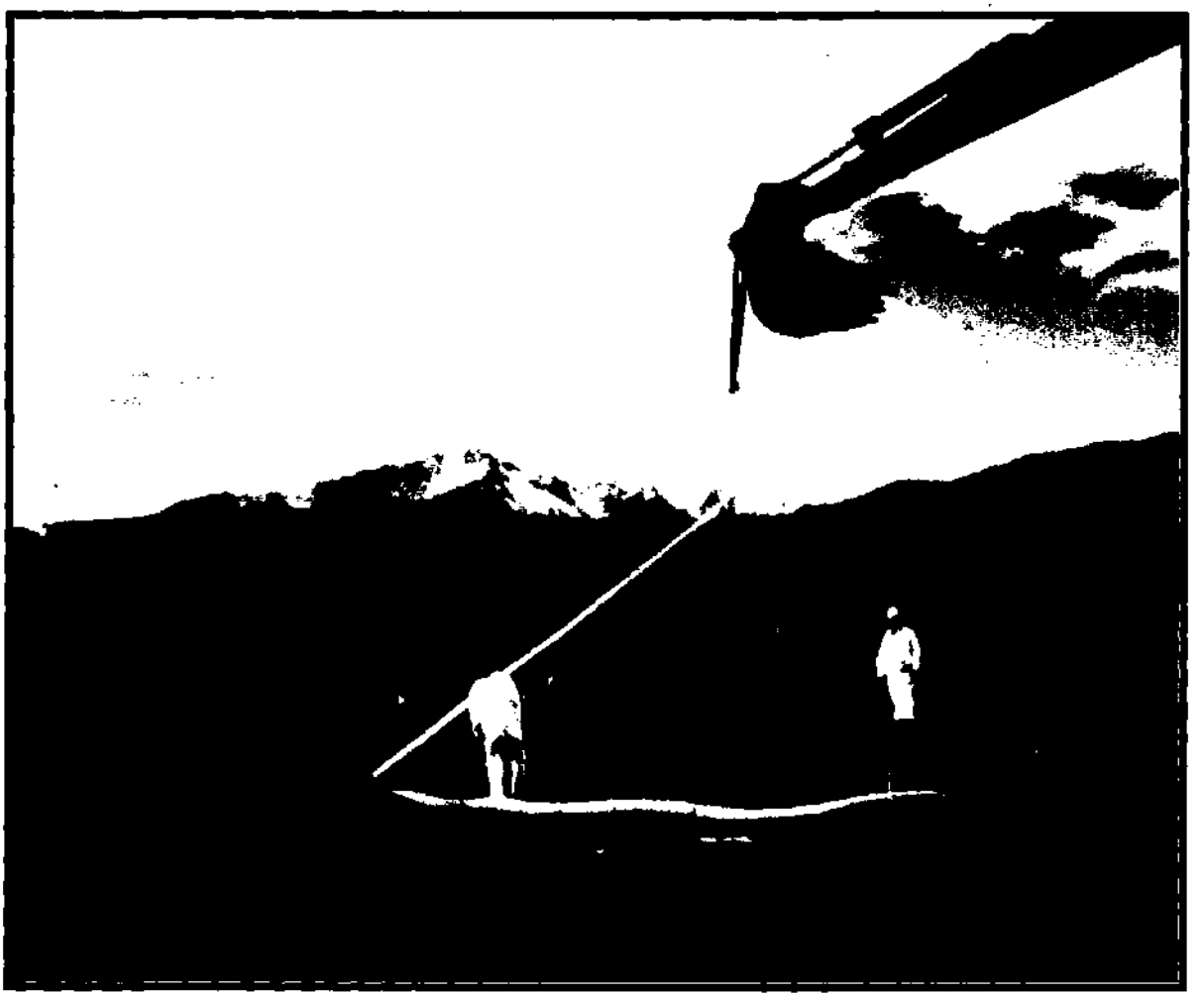
Libby Asbestos Site, Operable Unit 4
Libby, Montana

Evaluation of Risks and Costs Associated with Libby Construction

September 2002



Risk Management Plan

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Section 1
Introduction

1.1 Background

To date, all construction related services for Libby activities have been procured by the Department of Transportation Volpe Center (Volpe) as part of their interagency agreement (IAG) with U.S. Environmental Protection Agency (EPA) Region VIII Emergency Response (ER) Program. Volpe selected Montgomery Watson Harza (MW-H) through a competitive procurement to implement construction related activities in Libby. The start of the 2002 construction season was delayed because MW-H was unable to come to terms with EPA and Volpe on contractual issues. The impasse was related to indemnification and insurance concerns associated with remediating asbestos contamination.

EPA has now tasked CDM with evaluating various construction procurement options before they move forward with the next large construction procurement. The evaluation will consider the insurance and indemnification issues raised by MW-H, the nature of construction activities as the site transitions to the Remedial Program, and options for controlling construction related costs.

1.2 Previous Work Conducted at the Site

Since 1999, EPA Region VIII's ER Program has been conducting sampling and removal activities to address highly contaminated areas in the Libby Valley. Removal activities were initiated in response to media articles, which detailed extensive asbestos-related health problems in the Libby population. While at first the situation was thought limited to those with direct or indirect occupational exposures, it soon became clear that there were multiple exposure pathways and many persons with no link to mining-related activities were affected.

Typically, the amphibole asbestos contamination found in the Libby Valley comes from one or some combination of primary sources: vermiculite mining wastes, vermiculite ores, vermiculite processing wastes, bulk residuals from vermiculite processing, Libby amphibole (LA)-containing rocks, or Libby vermiculite attic insulation. Asbestos from these primary sources has been found in interior building dust samples and local soils, which in turn act as secondary sources. To date, the goal of ER Program has been to find and identify areas with elevated levels of asbestos (the primary sources) and to remove them. The ER Program has conducted contaminated soil removals at the former export plant location, the former screening plant and adjacent properties, the high school and middle school tracks, and a few residential properties with asbestos source materials present. Three schools in the Libby school system have also had removals performed. Details of these operations can be found in the applicable action memorandums.

1.3 CDM's Involvement at the Site

CDM has supported the EPA Region VIII in response services for the past two years through its architecture and engineering (A/E) services contract with Volpe in the following capacity:

- Procured and set up a project office
- Assisted EPA with the development of sampling and analysis plans
- Planned and implemented a complex and extensive soil, bulk material, and dust sampling program
- Procured qualified laboratories to analyze samples
- Retained a full-time community relations specialist to maintain the office and to provide local outreach support to the community and EPA
- Developed a database and geographic information system to support the collection, management and analysis of environmental information
- Provided broad support for the EPA community relations program, including operation of the Emergency Response Information Center Field Office in Libby, developing community involvement plans, planning and conducting public meetings, producing fact sheets and public notices, maintaining information repositories and mailing lists, and facilitating community advisory group meetings
- Design and construction oversight support for removal and restoration of several sites and construction of a new asbestos permitted landfill cells

The project is in the process of transitioning from the ER to the remedial program by the end of the next year. EPA has assigned a remedial project manager to the site and started planning for the remedial phase of the project. In 2002, EPA awarded CDM a work assignment through the EPA Region VIII Response Action Contract (RAC) to support the remedial phase of the project. The remedial program has tasked CDM to do the following additional work:

- Develop a sampling and analysis plan for the remedial investigation contaminant screening study
- Coordinate with Volpe and other contractors to implement the contaminant screening study
- Provide geographic information system support for the contaminant screening study

- Complete a remedial investigation technical memorandum that details the investigation rationale, approach, results, and provides conclusions and recommendations for further investigations at the site

CDM is currently working at the site under both the Volpe and EPA RAC VIII contracts.

1.4 Work Remaining to be Conducted at the Site

Future work in Libby is proceeding on two fronts. First, the ER Program continues to remove previously identified primary outdoor source areas and is also developing plans to remove Libby vermiculite attic insulation from commercial buildings in the Libby Valley. Second, pursuant to the proposed addition of the Libby Asbestos Site to the National Priorities List (NPL) in February 2002, the EPA Superfund Remedial Program has initiated a remedial investigation, of which a contaminant screening study is the first phase. The contaminant screening study will identify additional properties containing primary sources, which require immediate cleanup, as well as identify properties that might require further investigation or remediation as final risk assessment and cleanup decisions are made.

The contaminant screening study (CSS) has identified a significant number of commercial and residential properties that will require indoor, outdoor, or both types of remediation. EPA intends to complete remediation of these properties in the next several years. To accomplish this feat, remediation and restoration activities will need to be conducted year round and at the pace of several hundred properties per year. This evaluation will provide EPA with additional information to help develop and implement procurement activities for remedial construction services.

Section 2
Remediation Risks

The following are the various issues that needed to be researched in order to determine a RAC or other contractor's risks and possible ways to mitigate those risks.

- Insurance Claims- Identify risks of procuring remediation services
- Subcontracting - Identify availability of qualified contractors
- Technical - Identify CDM's internal capabilities for managing the remediation
- Contractual - Identify issues for using the RAC contract to procure remediation
- Cost - Identify and evaluate cost model for EPA to use both the Volpe and RAC contracts

The following sections break out the risks and mitigation measures for each of these areas.

2.1 Insurance Claims

Insurance claims resulting from remediation activities at Libby could stem from several sources, including workers' compensation, subcontractor employees', and homeowners' claims. These claims can be mitigated in various ways. The types of claims and possible mitigation approaches follow.

2.1.1 Workers' Compensation Claims

Risk

Libby residents who work for the construction contractor could be diagnosed with asbestos-related diseases during employment. This contractor would then be liable for paying medical expenses for those employees, and would impact their experience modification rate (EMR). If multiple employees were to be diagnosed with asbestos-related diseases, the company's EMR could go above 1, which may result in lost opportunities with clients that require EMRs to be less than 1 to propose on their work.

Mitigation

CDM is currently working at Libby in a variety of roles, including field investigations, design, and construction services. To date, CDM has mitigated this risk by not employing Libby residents for positions that would expose them to risk from asbestos. This mitigation measure can continue to be exercised during future work, whether CDM procures the remediation contractor, or provides A/E services. Other contractors could take the same approach.

2.1.2 Subcontractor Employees' Claims

Risk

Libby residents who work for remediation subcontractors could be diagnosed with asbestos-related diseases while employed by that subcontractor. If the subcontractor isn't properly insured, their employees could bring suit against the prime contractor for their medical expenses.

Mitigation

Procuring only those subcontractors that have sufficient insurance and financial resources to protect the prime contractor from the risk can mitigate this risk.

2.1.3 Homeowners' Claims

Risk

Residents whose houses are remediated could claim property damage or bodily injury due to the work. This could include future claims of liability for asbestos-related diseases.

Most contractors' general liability insurance would cover property claims not related to pollution. However, pollution-related claims, such as asbestos-related diseases would be excluded. To cover pollution-related claims, CDM has pollution liability insurance for the RAC contract with the premiums for the insurance currently being paid by EPA. This is a claims-made policy and protects CDM from pollution-related claims arising from work as long as the policy is still in place when the claims are made. Once the policy expires, CDM will lose all coverage from pollution-related claims. Also, this policy has an asbestos exclusion, so that any claims arising from CDM's work related to asbestos, such as asbestosis, would not be covered. In addition, a claims made policy would not be sufficient given the latency period of asbestos related diseases are typically more than 20 years.

Mitigation

In order to better protect a contractor from these risks, two options were evaluated:

- Indemnification from EPA
- Site-specific pollution liability insurance policy

Indemnification allows EPA to waive a contractor's liability, up to a predetermined dollar amount, resulting from their work in Libby. EPA's policy is to negotiate such claims only if no other option is available (i.e., insurance).

Based on this information, indications were requested from CDM's insurance broker to determine whether insurance policies are available that would adequately cover CDM for its work up in Libby. An occurrence policy or a claims-made policy with a tail, both without an asbestos exclusion, are the only options available that would provide adequate coverage. An occurrence policy covers claims that are made at any

point in the future as long as the event causing the claim occurred during the term of the policy. A claims-made policy would only cover claims made during the term of the policy. To extend the coverage the policy could have a tail, so that the policy would cover claims made after the policy expires in return for either a lump sum or an annual premium.

CDM's insurance broker indicated that three companies are currently providing this type of insurance: XL, AIG, and Zurich. The indications were based on $20 million per year in revenues from just the remediation. The time period differed for the three companies. XL and AIG used a two-year period, and Zurich used a five-year period. The details for the insurance policies and premiums are shown on the following table.

Table 2-1 Insurance Options for Remediation Phase Only

	Remediation Phase Only		
Insurer	**XL**	**AIG**	**Zurich**
Estimated Policy Term Premium	$67,200 (minimum premium) plus VA surplus lines fee of 2.25% ($1512) = $68,712	$177,270 plus VA surplus lines fee of 2.25% ($3,989) = $181,259	$450,000 plus VA surplus lines fee of 2.25% ($10,125) = $460,125
Time Period	2 years for remediation work	2 years for remediation work	5 years for remediation work
Coverage	Claims made - Contractor's Pollution Liability form	Claims made Contractor's Pollution Liability form	Occurrence - Contractor's Pollution Liability form
Limits	$10M each incident/ $10M policy aggregate	$10M each incident/ $10M policy aggregate	$10M each incident/ $10M policy aggregate
Retention (Deductible)	$100,00 each incident	$100,00 each incident	$100,00 each incident
Extended Reporting Period (ERP) - Tail Coverage	3 years	5 years	2 years (for professional liability only)
Estimated ERP Premium	Additional $67,200 plus VA surplus lines fee of 2.25% ($1512) = $68,712 (per policy condition - additional ERP premium of 100% of the policy premium)	Additional $44,317 plus VA surplus lines fee of 2.25% ($997) for 5 years = $45,314; Additional $124,089 plus VA surplus lines tax of 2.25% ($2,972) for 10 years = $127,061	Included
Adjustable Rate or Flat Rate	$1.40 per $100 of revenues	None - flat rate	None - flat rate
Other	If the adjustable rate develops a policy premium greater than $67,200 minimum premium, the 3 year ERP additional premium will be the adjusted policy premium		

As can be seen on the table, Zurich provided an indication for an occurrence policy that would provide better protection from asbestos-related claims than claims made. Therefore, it appears that CDM and other contractors would be able to find insurance coverage that would help mitigate this risk.

2.2 Subcontracting

Risk

To procure construction under the RAC contract, CDM would have to consider its subcontracting goals established for the contract, [56.2 percent small business (SB), 16.2 percent small disadvantaged business (SDB), and 5.0 percent woman-owned small business (WOSB)]. The procurements for Libby remediation would be substantially larger than any other subcontracting conducted to date under the contract. Therefore, CDM would have to try to identify a sufficient number of qualified SB, SDB, and WOSB contractors and determine whether they would set aside the remediation subcontracts for one of these types of contractors.

Meeting subcontracting goals is a contractual obligation and essential for any government contractor. There is some level of risk that would affect a prime contractor's ability to win new federally contracted work if they did not meet the goals established under a previous contract.

Mitigation

To evaluate this issue, CDM first evaluated NAICS codes that relate to the Libby construction activities. NAICS code 562910; the Environmental Remediation Services code has a small business size requirement of 500 employees. In order to use this code for the procurement of a SB subcontractor, the construction work has to entail more than three NAICS industry codes and none of the codes can represent more than 50 percent of the work. If these conditions aren't met, then the procurement must be made under the industry code that represents the majority of the work. This would result in a SB size for the procurement based on revenue in that NAICS code, and would be somewhere in the $4 million revenue averaged over the past three years. This would be a much smaller size and would result in procuring a subcontractor with fewer financial resources to protect themselves and the prime contractor.

In reviewing the industry codes, 12 codes were identified that would be related to the Libby work, and none of the individual codes would represent more than 50 percent of the entire subcontract. Therefore, it was determined that the 562910 NAICS code for Environmental Remediation Services could be used. This is based on a preliminary evaluation; this will be reevaluated after developing more cost information on the construction being performed at the site.

Following this evaluation CDM performed a search of the ProNet database under the 562910 NAICS code to determine whether there are sufficient contractors available in these categories which could be solicited to perform the construction. The result of this search was that there are least six contractors that appear qualified for the work

based on technical capabilities and bonding capacity. There are several other firms that appear to have the right technical capabilities, but may not have the bonding capacity to handle $20 million per year. If the annual dollar value of the remediation turns out to be lower, there could be several more firms appropriate for the work.

In addition, this issue was discussed with EPA's Region VIII RAC Project Officer (PO) to ask whether subcontracting goals could either be adjusted or site-specific goals set up to facilitate the selection of an appropriate construction contractor for this type of activity. EPA is looking into this issue.

2.3 Technical

Technical issues for the Libby remediation include staffing the construction management positions needed to manage CDM's construction subcontractor and developing an approach to implementing the remediation that mitigates the risk for CDM to procure the construction. A discussion of these issues follow.

2.3.1 Staffing

Risk

There is a need to staff the work with a qualified resident engineer(s) to manage the construction subcontractor. A significant amount of risk is incurred by having a construction contractor working around and inside of residences. This risk includes having residents upset by the work completed by the subcontractor and having costs increased by changes in quantities or scope when trying to address the residents concerns.

Mitigation

To mitigate this risk within CDM, a search was conducted for qualified resident engineers within CDM through the resource manager network including the CDM Engineers & Constructors division. Also a search was made for potential resident engineer candidates outside of CDM by having human resources search various Internet sites for resumes. This was done to determine whether qualified resident engineers could be found within CDM or whether CDM would have to consider hiring people to fill these positions. The result of the search thus far, although not yet complete, is that it appears CDM has staff qualified to fill resident engineer positions for restoration work and the soils removal work, but no one qualified to manage the asbestos abatement work. Therefore, the most effective way to mitigate the risk is to use a combination of existing CDM staff and hire new staff with experience in asbestos abatement and indoor restoration.

2.3.2 Technical Approach

Risk

In procuring and implementing an asbestos related remediation project the greatest risk a remedial contractor runs is not developing and implementing a technically sound strategy.

Mitigation

Representative examples of methods that will help mitigate risk follow.

- EPA currently requires property owners to sign a liability release form before CDM conducts sampling activities on their property. CDM requests that a similar liability release form be signed by property owners before remediation activities occur on their property.

- Establish appropriate clean-up goals. CDM will work with EPA to ensure that the clean-up goals established for the work are appropriate. EPA is currently deciding whether the clean-up goals will be based on demonstrating that the sources of the asbestos are removed, without a total clean-up that would include disposal of household possessions, or whether they need to establish numeric clean-up goals for the number of fibers remaining in the air following remediation. There is currently no national standard for asbestos remediation, so EPA must decide how to establish goals for the Libby clean-up.

- Conduct confirmation sampling to ensure the approved clean-up goals are met. The current plan is for CDM to conduct clearance sampling, to ensure that clean-up goals are met. By documenting before and after clean-up conditions, CDM will be able to demonstrate that the exposure the residents were encountering prior to the remediation is reduced by the remediation work.

- Relocate residents. It has been decided to relocate residents during the indoor work and also for the outdoor work. This will limit the residents' exposure to both aspects of the work, and limit the contractor's liability.

- Develop appropriate engineering controls. The design for the remediation will include engineering controls to ensure that adequate containment for the removals are constructed and that other measures, such as dust control, are used to minimize exposure of both the construction workers and the public to asbestos.

2.4 Contractual

Several issues were identified in the RAC VIII contract that could impact CDM's ability to procure the remediation contractor at Libby. These include pollution liability insurance, indemnification, subcontracting goals (all previously discussed above), fee structure, and subcontract ceiling (both discussed below). Also included in this section is a discussion of various other contractual issues that were initially identified as potential risks, but later determined that no further evaluation was necessary.

2.4.1 Subcontract Ceiling

Risk

The subcontract ceiling for subpool subcontracts for the option period of CDM's RAC contract is approximately $31 million. To date, CDM has incurred roughly $8 million of subcontract costs in the first three years of the option period. Setting aside another $6 million for the estimated subcontracts in the final two years of the option period would leave CDM with $17 million available for Libby remediation work. This would not be sufficient to cover one year of the estimated $20 million per year of remediation at the site.

Mitigation

This issue of whether or not the subcontracting ceiling could be raised was discussed with EPA, as CDM has more than enough overall contract ceiling to cover the work. EPA informed CDM that this was an option, and more specifically they would most likely address the issue by moving subcontracting capacity from other RAC contracts.

A second possible mitigation approach discussed with EPA is to have EPA issue the work assignments for construction as completion form assignments. The subcontracts for the completion form assignments would not be counted against CDM's subcontracting ceiling in that case.

2.4.2 Fee Structure

Risk

Generally, the profit percentage for federal cost plus contracts is limited to 10 percent, whereas the profit percentage for fixed price contracts is limited to 15 percent as compensation for cost risk. The RAC contract currently only allows a 5 percent profit on subcontracted work like the Libby construction activities. The prime contractors could request additional compensation for the risk inherent with asbestos remediation and the cost risk.

Mitigation

The construction activities could be divided into three risk profiles including indoor remediation (high risk), outdoor remediation (medium risk), and non-asbestos remediation (low risk). Fee ceilings of 15 percent could be established for the high risk work, 10 percent for medium, and the current 5 percent for non-asbestos related remediation.

2.4.3 Other Contractual Issues

The following issues were considered under contractual risk, but were determined not to be risk issues needing to be addressed further.

- In order for the remediation work to be successful, CDM would have to obtain the support and buy-in of the EPA RAC VIII Contracting Officer (CO), PO, and RPM to review, approve, and fund construction change orders in a timely manner. This would require a number of criteria to be met from a contractual standpoint. First,

EPA would have to fund the 15 percent construction contingency activity in the statement of work in CDM's work assignment. Second, the RPM would have to be willing to stay involved with the ongoing construction at the site by spending a significant amount of time on site or having another EPA person spend a significant amount of time on the site so that they understand the work, keep up to speed on the remediation, and process the required paperwork to review and approve change orders. Third, the CO would have to be willing to expeditiously process the paperwork to approve the use of the 15 percent contingency money to fund change orders. CDM discussed these issues with EPA and they indicated that they could make this work.

- CDM discussed the length of the subcontract with EPA. The procurement for Libby could be an indefinite delivery, indefinite quantity (IDIQ) contract with a base year and several option years. However, since CDM is in the third year of its option period on the RAC contract, it could only offer one base year and one option year. EPA said CDM should consider whether they could use additional option years in the subcontract by planning to use a rollover to RAC II or III contracts if CDM isn't successful in recompeting the RAC VIII contract. CDM agreed to look into this possibility. Overall, EPA didn't indicate that this was a major issue.

- EPA was asked whether they viewed CDM performing A/E services under Volpe and the ensuing procurement of remediation services under RAC as a conflict of interest. EPA said no, since CDM is allowed to perform both the A/E services and the procurement of remediation services under the existing RAC scope of work.

The final point of discussion with EPA was whether it would make sense for them to make a site-specific procurement for the remediation services at Libby. EPA indicated that this was something they are considering. However, they would have to rely on EPA headquarters to perform the procurement, as they do not have personnel with the proper construction contracting experience to perform the procurement in the Region. EPA's first preference at this time is to use Volpe, and their second preference is to use the RAC VIII contract. They will wait to see how those options turn out before evaluating other options, such as procuring the remediation themselves or using another federal agency to procure the work.

Section 3
Risks and Mitigation Measures for Remediation Scenarios

For the purposes of evaluating the risks associated with procuring remediation services at Libby, CDM developed three scenarios under which construction contracting might occur through the Volpe inter agency agreement (IAG) and the RAC contract. Descriptions of these scenarios follow. In addition, a description of other contracting scenarios EPA might use to complete the work, and a table, listing the various risk types, risks, mitigation measures, and applicable scenario are provided

3.1 Scenario 1: Volpe Procures All Construction

Under this scenario, Volpe procures all construction contracts and performs all construction related activities. The RAC contract provides all design and engineering during construction services, procures subcontractors for drilling, laboratory analysis, and surveying.

For this scenario, CDM incurs no additional risk for the remediation services. Rather, CDM incurs only the risks for the A/E services, which they are currently performing.

3.2 Scenario 2: Volpe Procures Indoor Work, RAC Contract Procures Outdoor Work

Under this scenario Volpe procures the construction contracts to complete the indoor remediation work and the RAC contract is used to procure the construction contracts to complete the outdoor remediation work. CDM also provides all design services and engineering during construction services to Volpe and construction management services on work procured through the RAC contract.

For this scenario, CDM incurs risk for A/E services and for the remediation of the outdoor contamination.

3.3 Scenario 3: RAC Contract Procures All Construction

Under this scenario, the RAC contract will be used to procure all construction contracts, performs construction related activities, as well as provides all design services.

For this scenario, CDM incurs risk for A/E services and for the remediation of the indoor and outdoor contamination.

3.4 Scenario 4: Volpe Procures Indoor/Outdoor Construction, RAC Procures Non-Asbestos Work

Under this scenario Volpe procures all construction contracts related to remediation of asbestos related contamination and the RAC contract will be used to procure restoration activities. CDM also provides all design services and engineering during construction services to Volpe and construction management services on work procured through the RAC contract.

For this scenario, CDM incurs risk for A/E services and for the construction of non-asbestos related issues.

3.5 Other Contracting Scenarios

In addition to these scenarios, EPA could choose from other contracting options for procuring the remediation at Libby:

1. EPA Procures All Construction

EPA procures all construction contracts, and CDM provides all design and construction management services.

2. A Federal Agency Other than EPA Procures All Construction

EPA requests another federal agency (i.e., USACE, BOR) to procure all construction contracts, oversee the contractors, and CDM provides all design and engineering during construction services.

These two scenarios present similar risk to CDM as the "Volpe Procures All Construction" scenario, and therefore will not be addressed separately. Rather, the "Volpe Procures All Construction" scenario will be used to represent the cases where either Volpe, EPA, or another federal agency procures the remediation for Libby, and CDM only provides the A/E services.

3.6 Risks and Mitigation Measures

The following table summarizes the potential risks to a RAC contractor for procuring construction for the Libby site, possible mitigation measure for those risks, and identifies which scenario those risks apply.

Table 3-1 Potential Risks of Procuring Construction

Risk Type	Risk	Mitigation Measures	Scenario [a]
Insurance Claims			
Workers' Compensation Claims	■ Libby residents who work in the field could contract asbestosis in the future and claim that they were exposed during the time they worked for us.	■ Employ Libby residents for only positions that do not expose them to asbestos while on the job.	1, 2, 3
Subcontractor Employees' Claims	■ Subcontractors' employees contract asbestosis in the future and sue CDM because our subcontractor does not have the financial resources to cover their claims.	■ Require subcontractors to have adequate insurance. ■ Procure only those subcontractors who have sufficient financial resources to cover such claims. ■ Require subcontractors to indemnify CDM for such claims.	1, 2, 3
Homeowners' Claims	■ Homeowners claim either property damage or personal injury due to our work.	■ Property damage not resulting from pollution is covered by CDM's general liability insurance. ■ EPA compensates CDM for a site-specific pollution liability policy and/or indemnifies CDM.	1, 2, 3, 4
Subcontracting	■ CDM is unable to find qualified SB and SDB subcontractors to do the work, and therefore not meet it's RAC VIII subcontracting goals.	■ Continue using CDM's normal procurement process to identify qualified subcontractors for each procurement. ■ Determine whether or not EPA is willing to change the contracting goals or make site specific goals.	1, 2, 3, 4 Although this risk does apply to all scenarios, to date CDM has not had a problem procuring SB or SDB business for A/E services. However, this may be more difficult to do for construction services.

Risk Type	Risk	Mitigation Measures	Scenario [a]
Technical	■ CDM is unable to find either internally or externally qualified personnel.	■ Continue using CDM's normal resource management system to staff the project with qualified personnel for the A/E services. ■ Use E&C to staff/oversee those personnel involved with the indoor and outdoor remediation; use a combination of current staff and staff hired for specific positions.	2, 3, 4 A/E services is a core service of CDM; it has more than enough qualified personnel to complete the work.
Contractual *Subcontract Ceiling*	■ Construction work at Libby will result in subcontracting dollar amounts that exceed the RAC VIII option period ceiling.	■ Continue monitoring subcontract usage and whether we are meeting our subcontracting goals. ■ Determine if EPA will raise the subcontracting ceiling. ■ Have EPA issue the work as completion form assignments, so that the subcontract value does not count against our ceiling	3 This will not be an issue for Scenarios 1 and 2, as CDM has sufficient subcontract capacity to implement those

(a) 1 - Volpe procures all construction
2 - Volpe procures indoor work, RAC contract procures outdoor work
3 - RAC contract procures all construction
4 - Volpe procure indoor/outdoor, RAC contract procures non-asbestos work

Section 4
Risk Analysis and Summary Table

Each scenario was analyzed to establish the level of risk to a prime contractor. The level of risk assigned to the type of risk under each scenario was based on the following table, which assigns the level of risk on the probability and consequences of the risk event occurring, after the mitigation measures have been applied.

Table 4-1 Risk Analysis and Summary Table

	Probability				
Consequence	**Frequent**	**Likely**	**Occasional**	**Seldom**	**Unlikely**
Catastrophic	E	E	H	H	M
Critical	E	H	H	M	L
Moderate	H	M	M	L	L
Negligible	M	L	L	L	L

E - Extreme High Risk
H - High Risk
M - Medium Risk
L - Low Risk

For example, under the first risk type, insurance claims, the following analysis was made. Scenario 1, which involves only A/E services, the probability of claims was considered unlikely and the consequences of moderate impact. Therefore, the level of risk was assigned as low. Scenario 2, which adds outdoor remediation work to the A/E services, the probability of claims was considered seldom and the consequences moderate. So, the level of risk was also assigned as low. Scenario 3, which involves indoor work in addition to the A/E services and outdoor work, the probability of claims was considered occasional and the consequences moderate due to the site specific insurance. Therefore, the level of risk was assigned as medium.

Each type of risk was analyzed with the appropriate mitigation measures applied to determine the level of risk. It should be noted that a risk with a low probability of occurrence could still pose a significant risk if a single catastrophic event occurred. The results of this analysis are shown on the following table.

Table 4-2 Risk to RAC Contractors

	Risk to RAC Contractors				
	Insurance	**Subcontracting**	**Technical**	**Contractual**	**Overall Risk**
Volpe Procures all Construction	low	Low	low	low	low
Volpe Procures Indoor RAC Procures Outdoor	low	low	low-medium	low-medium	low-medium
RAC Procures all Construction	medium	low-medium	low-medium	medium	medium
Volpe Procures Indoor/Outdoor RAC procures non-asbestos	low	low-medium	low	low	low

Section 5
Cost Model

As part of this task EPA requested that CDM help develop ways to control costs at the site. The ER Program under cost plus fixed fee task orders that have been negotiated with a sole-source contractor has performed the work completed to date. One of the options that could help control cost, which CDM and EPA discussed, is to put more of the cost risk on the contractor. That would be accomplished by moving towards completing the work through fixed price or fixed unit price task orders.

However, there are several factors causing the higher costs at the site. The first is that EPA's approach to the work has been evolving, which is typical with work completed at sites under the ER program. Second, EPA has been evaluating alternative analytical methods for asbestos, so that they can better determine the risks to human health in Libby. Third, as stated above, the work has been negotiated with a single contractor rather than being competitively procured.

To respond to EPA, CDM evaluated the cost of Volpe procuring the remediation versus CDM procuring the remediation using the RAC VIII contracting vehicle. This was done to allow EPA to review the relative costs of the two contracting mechanisms. CDM also developed a cost model that will accomplish EPA's objective of reducing remediation costs overall at the site.

Following are the elements considered in evaluating cost models for completing this work and as discussed above.

1. Volpe's markup to EPA for the remediation contractor is 3.9 percent compared to CDM's markup of 10.6 percent (5.6 percent plus base and award fees of 5 percent). Also, EPA does not have to pay for the actual procurement costs, as they are included in the 3.9 percent markup. EPA would have to pay the costs of CDM procuring the remediation contractors. Assuming that there is $50 million worth of remediation over the next 3 years, the cost to EPA for Volpe to procure and administer the work is:

   $50,000,000 X 3.9 percent = $1,950,000.

   The cost to EPA for CDM to procure the work is:

   $50,000,000 X 10.6 percent + one procurement X $20,000/procurement = $5,320,000

   This assumes that CDM would procure a remediation subcontractor one time, with 250 hours of effort to prepare the solicitation package, conduct the site walk, answer questions, evaluate proposals or bids, and award the subcontract. Also, this assumes that CDM will earn the entire award fee.

2. Changing the approach to procuring the remediation contractor from negotiated sole source to competitively bid will reduce costs. Putting an actual percentage on the reduction in costs is difficult since each procurement can differ as to market conditions, level of competition, perceived risk of the contract, and so forth. CDM has experience at another superfund site in Leadville, CO where the difference was as great as 25 percent between a sole source, negotiated contract and a competitively bid contract. Using a more conservative number of 10 percent cost reduction, the savings to EPA would be $5,000,000.

3. As the EPA RPM has asserted, one way to reduce overall remediation costs is to transfer some of the cost risk from EPA to the remediation contractor by using a fixed price or fixed unit price contract rather than a cost plus fixed fee contract. Although the initial cost of an individual task order will be greater due to the remediation contractor proposing a higher fee for the additional risk, the final cost of the task order may be less due to lower cost growth during implementation of the work. Generally, the profit percentage for federal cost plus fee contracts is limited to 10 percent, whereas the profit percentage for fixed price contracts is limited to 15 percent as compensation for cost risk. The actual savings is again difficult to determine due to the variables involved. If a 2 percent reduction in cost is assumed, the savings to EPA would be $1,000,000.

In addition to these savings, costs can be reduced in the following ways:

- Planning the remediation and adhering to the plan.

- Continually evaluating the approach to the remediation itself and how to package various elements of the remediation to allow the remediation contractor to be most efficient in its operations. One example of this is to cluster properties together to make one large exclusion zone rather than several small exclusion zones. This will allow the contractor to be more efficient in the work.

- Having strong construction management in the field to oversee the contractor and look for less costly ways of completing the work and feeding that back into the design process.

In summary, Volpe can be the most cost effective option for EPA if they are (1) willing to competitively procure contractors for a site-specific contract with the capability to use fixed price or fixed unit price task orders, and (2) staff the roles of resident engineer and resident inspection with qualified personnel. If these two things do not happen the cost savings resulting from a lower overhead rate and no profit (fee) may be negated.